

Work Order ID 122220

July 11-14 9:03:46 AM

122220

~~PRELIMINARY ISSUE~~



Page 1

Item ID: D4680-041

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Skidtube Assembly

Start Date: 7/11/14

Start Qty: 1.00

1

Cust Item ID:

Required Date: 7/11/14

Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: ML5

Date: 4-07-11

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr	Revision Nbr
D3492	E
D4680	per Rev. C

A.P.
14.12.17

0.00

110

110

CNC Bend 1

CNC Delta 100 Bender

Memo

0.00

1- Bend as per dwg D4680 using bend program D4680 and Folio: 26

Verify measurement before cutting.

2- Cut FWD end as per dwg D4680

DP 14-7-11

Work Order ID 122220

July-11-14 9:03:46 AM

122220

PRELIMINARY ISSUE

Page 2

Item ID: D4680-041

Accept

N9000040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Skidtube Assembly

Start Date: 7/11/14

Start Qty: 1.00

1

Cust Item ID:

Required Date: 7/11/14

Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

120

Skidtubes

Skidtubes

Skidtubes

Memo

1-Cut Aft end as per dwg D4680

2-Deburr ends

3-Drill Aft & Fwd Cap holes using DT8678 & DT8901

4-Locate DT _____ & Drill Ground wire hole on top of Tube.

5-Locate DT _____ with #30 cleco in Ground wire hole ,then Pilot Drill all X-Bolt holes using #30" drill. ****DO NOT OPEN AFT CAP HOLES****

6-Open ground wire hole .297" (1 at fwd end & 2 at aft end at 21.06" ref.)

7- Deburr Rivet holes.

8- 3 most fwd x-bolt holes must be laid out manually, open to #30.

9-Open Aft & Fwd Cap holes using .208" drill.

10- Open X-Bolt holes to .750" (8 places) ***DO NOT OPEN HOLES TO SECTION G-G ***

11- Drill Rivet Holes as per Dwg D4680 using DT 10065 ***DO NOT DRILL RIVET HOLES ON SECTION G-G (TWO PLACES)

12-Deburr holes.

DAS
10
9-89

14-7-15

Work Order ID 122220

July-11-14 9:03:46 AM

122220

PRELIMINARY ISSUE

Page 3

Item ID: D4680-041

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Skidtube Assembly

Stop *NS2*

Start Date: 7/11/14 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 7/11/14 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

140 QC5- Inspect part completeness to step on W/O 0.00

140

QC

Memo

Quality Control

0.00

DAS

27

9-99

4/7/12

150 Chemical Conversion Coat per QSI005 4.1 0.00

150

HandFinish

Memo

Hand Finishing

0.00

14-7-15 DGL

160 QC7-Inspect Chemical Conversion Coat 0.00

160

QC

Memo

Quality Control

0.00

DD 14-7-16

Work Order ID 122220

July-11-14 9:03:46 AM

122220

PRELIMINARY ISSUE

Page 4

Item ID: D4680-041

Accept

N9000040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Skidtube Assembly

Start Date: 7/11/14 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 7/11/14 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	Skidtubes	0.00							

170

Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1- Bond web as per Dwg D4680 & QSI 015

A/R 241 Sike Flex Batch: 129457

Exp Date: 14-11-20

start time: 1:45 PM

end time: _____

2- Seal all faying surfaces using proseal and rivet Doubler as per Dwg D4680.

A/R Proseal Batch: M128638

exp date: 14-10-30

LET IT CURE FOR 7HRS

START TIME: 11 AM

FINISH TIME: _____

3- Rivet doublers as per dwg

4- Open and chamfer holes on section G-G as per dwg. Blowout chips. Shave rivet as required

5- Weld spacers into place as per section G-G ***BACK DRILL***

A/R ALUM. WELDING ROD: M125127 and grind flush.

6- Ream holes detail C as per dwg, deburr 8 places

7- Swage x-bolt spacers as per Dwg D4680 and detail C-C 8 places.

8- Trim/Grind flush per QSI 002

DAS
10
988

14-8-14

14-8-19

14-8-19

14-8-20

Work Order ID 122220

July-11-14 9:03:46 AM

122220

PRELIMINARY ISSUE

Page 5

Item ID: D4680-041

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Skidtube Assembly

Start Date: 7/11/14

Start Qty: 1.00

1

Cust Item ID:

Required Date: 7/11/14

Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start *NR1*

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop *NR2*

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

175

QC10- Inspect visual per QSI004- ground welds

0.00

DAS

16

9-89

14/05/27

to PCZ Dug only

175

QC

Memo

Quality Control

180

QC5- Inspect part completeness to step on W/O

0.00

DAS

16

9-89

14/05/27

to PCZ Dug only

180

QC

Memo

Quality Control

210

Pressure Wash per QSI005 4.3

0.00

0.00

210

HandFinish

Memo

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

1 14-9-15

Work Order ID 122220

July-11-14 9:03:46 AM

122220

PRELIMINARY ISSUE

Page 6

Item ID: D4680-041

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Skidtube Assembly

Stop *NS2*

Start Date: 7/11/14 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 7/11/14 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220 *220*	<i>CL 4/12/16</i> SprayPaint	<i>MR 24408</i> 0.00	<i>START: 7:40.</i>			<i>1</i>	<i>0</i>	<i>14-12-16</i>	<i>DAS 34 9-89</i>
	<i>Memo</i> 1- Apply Sherwin Williams Primer as per QSI 005 4.2 and dwg A/R Primer Batch: _____ 2- Paint two coats of Sherwin Williams Gloss White as per QSI 005 4.2 and dwg A/R Paint Batch: _____ 3- Apply two coats of Sherwin Williams Clear Coat as per QSI 005 4.2 and dwg A/R Clear Batch: _____		<i>POWDER COAT</i>						
230 *230*	QC14- Inspect Spray Paint	0.00							
	<i>Memo</i> Quality Control	0.00							<i>1x f 14 4/12/17 DAS 15 9-89</i>

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: <u>107117</u> Part No. <u>D4680-04</u> NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Work Order Update ☒	AGAINST DEPARTMENT/PROCESS <table style="width:100%; font-size: small;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐	13.10.23	220	1	PRIMER PAINT WRONG	A.P. 13.10.23	Apply Chem Conversion & Primer coat white per QSI 005 4.3.5.1	13-10-23 DAS 34 9-89	DAS 27 9-89 B1108	DAS 16 9-89 13/11/14
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY			
Landing Gear ☐ Bending ☐ Centre Not Concentric to O/S ☐ Cracks ☐ Crushed/Crimped ☐ Cuffs ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Ripples in Bend ☐ Torque Waves in Extrusion ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damaged ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drill Holes ☐ Drawing ☐ Finish ☐ Folio	☐ Grain ☐ Hardware ☐ Inspection Incomplete ☐ Instructions Incomplete/Unclear ☐ Maintenance ☐ Mislabeled ☐ Misread ☐ Offset ☐ Out of Calibration ☐ Out of Sequence ☐ Outside Dimensions	☐ Ovalized ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other

Work Order ID 122220

July-11-14 9:03:46 AM

122220

PRELIMINARY ISSUE

Page 7

Item ID: D4680-041

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Skidtube Assembly

Start Date: 7/11/14

Start Qty: 1.00

1

Cust Item ID:

Required Date: 7/11/14

Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

260

260

HandFinish

Hand Finishing

HandFinishing

Memo

1- Install Wearplate & Ground Wire inserts as per Dwg D4680.

2-Inspect for Foreign objects

3- Install Fwd & Aft caps as per Dwg D4680 and Detail "A" & "B"

A/R 241 Sika Flex Batch: M 130227Exp Date: 12/02

4- Assemble o'ring to plug as per dwg D3492-055 and apply o'ring lube

A/R 55-o'ring lube batch: 19129305

5- Wing Walk as per Dwg D4680 and QSI 005 4.4

Batch: M 130936

270

270

QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

POSITIVE RECALL

EFFECTIVE MJS AUTH 14-07-11RELEASED 5 DATE 14/12/15Release Dwg for per
per CSMB
11/12/18

Work Order ID 122220

July-11-14 9:03:46 AM

122220

PRELIMINARY ISSUE

Page 8

Item ID: D4680-041

Accept

N9000040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Skidtube Assembly

Start Date: 7/11/14 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 7/11/14 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

280

Pick Kit

0.00

280

Packaging

Memo

0.00

Packaging

1X 8015-01-26

290

QC4- 100% Inspect kits for completeness

0.00

290

QC

Memo

0.00

Quality Control

15-1-26

300

Identify as per dwg & Stock Location: _____

0.00

300

Packaging

Memo

0.00

Packaging

PPP B 128537

1x

DAS

46

9-89

FEB 02 2015

Work Order ID 122220

July-11-14 9:03:46 AM

122220

PRELIMINARY ISSUE

Page 9

Item ID: D4680-041

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Skidtube Assembly

Start Date: 7/11/14

Start Qty: 1.00

1

Cust Item ID:

Required Date: 7/11/14

Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start *NR1*

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

310

QC21- Final Inspection - Work Order Release

0.00

310

QC

Memo

0.00

Quality Control

for MLI 15/1/23

15-23

Picklist Print

July-11-14 9:03:53 AM

PRELIMINARY ISSUE

Page 1

Work Order ID: 122220

122220

Parent Item: D4680-041

D4680-041

Parent Item Name: Skidtube Assembly

Start Date: 7/11/14

Required Date: 7/11/14

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 13.04.16 NEW ISSUE DD VERF:JLM IPP
REV:B 13.08.08 PB2 DD VERF:JLM IPP REV:C
13.09.10 PB3 DD VERF:JLM IPP REV:D 13.11.14
AS PER DWG REV.B DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2973

Manufactured No

Each 66.0000

2

D2973

**

Cross Bolt Spacer

BE17-0619

Location

Loc Qty

Loc Code

LG001

66

107428

66

2

D3492-15

Manufactured No

Each 20.0000

4

D3492-15

**

Plug

B122459 (x4) ll 14/12/17

Location

Loc Qty

Loc Code

FP-001

20

115874

20

REF (D3492-055)

NAS1611-015

Purchased No

Each 62.0000

4

NAS1611-015

**

O-RING

ll 14/12/17

Location

Loc Qty

Loc Code

FP001

62

m126637

62

4

REF (D3492-055)

Picklist Print

July-11-14 9:03:53 AM

Page 2

Work Order ID: 122220

Parent Item: D4680-041

Parent Item Name: Skidtube Assembly

122220

D4680-041

PRELIMINARY ISSUE

Start Date: 7/11/14

Required Date: 7/11/14

Start Qty: 1.00

Required Qty: 1.00

D2962-150

Manufactured No

Each

46.0000

D2962-150

3.540 Outer Tube, Extrut

**

14-7-11

Location

Loc Qty

Loc Code

HALL

46

90871

46

Each

1.0000

**

1

D4681-041

Manufactured No

D4681-041

Web Assembly

Location

Loc Qty

Loc Code

LG002 122378

1

107119

1

Each

114.0000

**

14-8-11

D4686-1

Manufactured No

D4686-1

Spacer

Location

Loc Qty

Loc Code

LG001

110

107104

110

ST118

4

97772

4

Each

45.0000

**

8

D4753-1

Manufactured No

D4753-1

Doubler

Location

Loc Qty

Loc Code

LG001

45

100674

7

100930

38

16 14-8-19

Picklist Print

July-11-14 9:03:53 AM

PRELIMINARY ISSUE

Page 3

Work Order ID: 122220

122220

Parent Item: D4680-041

D4680-041

Parent Item Name: Skidtube Assembly

Start Date: 7/11/14

Required Date: 7/11/14

Start Qty: 1.00

Required Qty: 1.00

AELS-1032-130 AELS8-1032-130 Purchased No

Each 67.0000 3

AFI S-1032-130

**

M128644 (x3) all 14/12/17

Rivnut

AELS-1032-130

Location

Loc Qty

Loc Code

ST280

67

m128179

67

AN3C4A Purchased No

Each 3,463.000 3

AN3C4A

**

all 14/12/17

Bolt

Location

Loc Qty

Loc Code

FG

20

122814

20

M130716

x3

ST350

3443

124221

12

125388

3

M127410

1

M127832

62

M128606

32

M128634

8

M128739

4

M128879

821

M129520

2500

Picklist Print

July-11-14 9:03:54 AM

PRELIMINARY ISSUE

Page 4

Work Order ID: 122220

122220

Parent Item: D4680-041

D4680-041

Parent Item Name: Skidtube Assembly

Start Date: 7/11/14

Required Date: 7/11/14

Start Qty: 1.00

Required Qty: 1.00

NAS1149F0332P

Purchased

No

Each

4,084.000

5

NAS1149F0332P

**

Washer

Location

Loc Qty

Loc Code

ST275

4084

122063

205

123900

12

125646

106

m123185

47

m127831

2500

m128401

914

m129541

300

X5

MS20601-AD4W3

Purchased

No

Each

776.0000

32

MS20601-AD4W3

**

Rivet

Location

Loc Qty

Loc Code

ST310

776

114538

500

124331

220

124365

56

32

D2965

Manufactured

No

Each

18.0000

1

D2965

**

Cap

Location

Loc Qty

Loc Code

FP001

18

99551

18

X1

July-11-14 9:03:54 AM

Shop Packet Print

Page 4

Picklist Print

July-11-14 9:03:54 AM

PRELIMINARY ISSUE

Page 5

Work Order ID: 122220

122220

Parent Item: D4680-041

D4680-041

Parent Item Name: Skidtube Assembly

Start Date: 7/11/14

Required Date: 7/11/14

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

Each

609.0000

2

AN3C5A

**

Bolt

Location

Loc Qty

Loc Code

FG

5

122800

5

M130851

x2

ST350

604

M128911

564

M128973

10

M129198

30

AN526C1032-10

Purchased

No

Each

96.0000

2

AN526C1032-10

**

Screw

Location

Loc Qty

Loc Code

ST327

96

125752

96

1

D2965-3

Manufactured

No

Each

7.0000

1

D2965-3

**

Cap

Location

Loc Qty

Loc Code

FP001

7

98923

7

x1

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

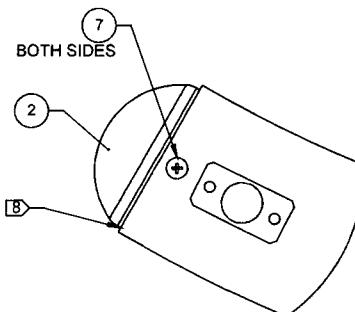
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

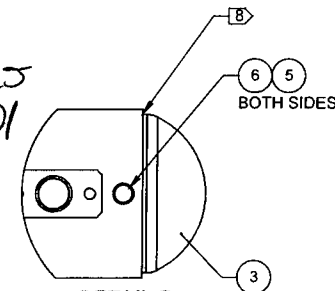
FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

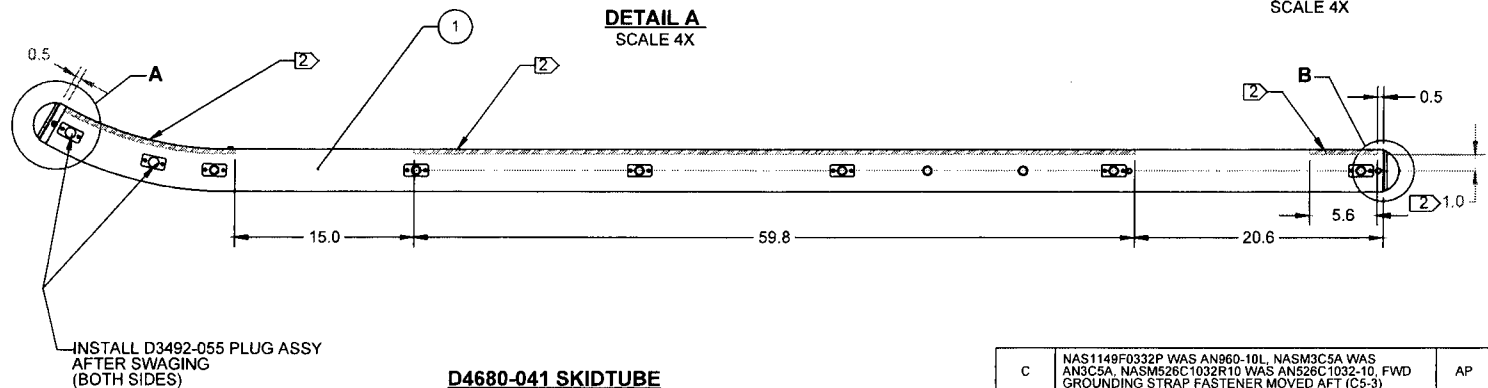
ITEM	QTY	P/N	DESCRIPTION
	X	D4680-041	SKIDTUBE
1	1	D4680-043	SKIDTUBE
2	1	D2965	CAP
3	1	D2965-3	CAP
4	4	D3492-055	PLUG ASSY
5	2	NAS1149F0332P	WASHER (AN960-10L)
6	2	NASM3C5A	BOLT (AN3C5A)
7	2	NASM526C1032R10	SCREW (MS526C1032R10)



DETAIL A
SCALE 4X



DETAIL B
SCALE 4X



D4680-041 SKIDTUBE

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 1.00 ABOVE CENTERLINE PER QSI 005 SECTION 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4680-041" AND B/N PER QSI 044 METHOD 6.4 ON INNER RADIUS OF SKIDTUBE BEFORE INSTALLING D2965 CAP
- 7) WEIGHT: 18.56 lbs
- 8) SEAL FAYING SURFACES WITH SIKAFLEX -241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B-2 SEALANT

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 122220 MWS
14-07-01

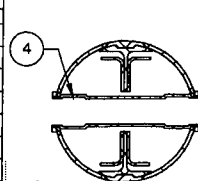
PRELIMINARY ISSUE

C	NAS1149F0332P WAS AN960-10L, NASM3C5A WAS AN3C5A, NASM526C1032R10 WAS AN526C1032-10, FWD GROUNDING STRAP FASTENER MOVED AFT (C5-3)	AP	14.02.26
B	FWD CAP WAS D2965, NOW D2965-3, VARIOUS DIMENSIONAL CHANGES. D3492-055 PLUG ASSY WAS D3492-051, SWAGING DIMENSION NOW 0.850 WAS 0.861 (D6-2), ADDED DETAIL H (C2-3), MATERIAL D2962-150 WAS D2962-131 (A7-3), GROUND HANDLING THRU HOLES NOW WELDED, ADDED SECTION G-G (D3-2)	AP	13.09.10
A	NEW ISSUE	AP	13.02.13
REV.	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. C2
MFG. APPR.	DD	D4680	SHEET 1 OF 3
APPROVED		TITLE	SCALE
DE APPR.		SKIDTUBE	NTS
DATE	14.02.26	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

PRELIMINARY ISSUE

114538

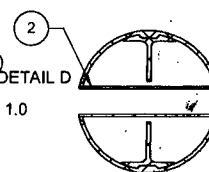
ITEM	QTY -043	P/N	DESCRIPTION
	X	D4680-043	SKIDTUBE SUB ASSY
1	1	D4680-1	SKIDTUBE
2	2	D2973	SPACER
3	1	D4681-041	WEB ASSY
4	8	D4686-1	SPACER
5	16	D4753-1	DOUBLER
6	3	AELS-1032-130	RIVET NUT
7	3	NAS1149F0332P	WASHER (AN960-10L)
8	32	NASM20601AD4W3	RIVET, BLIND, CSK (MS20601AD4W3)
9	3	NASM3C4A	BOLT (AN3C4A)



SECTION C-C
SCALE 4X
8 PL

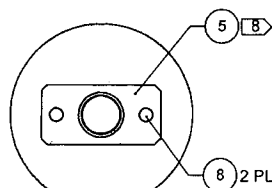
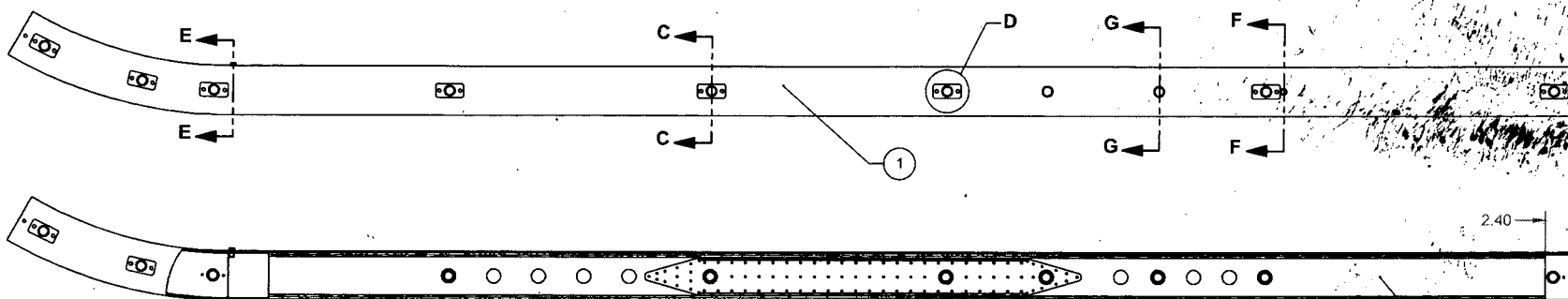
INSTALL D4686-1 SPACER AS FOLLOWS (8 PL)
AFTER INSTALLING D4753-1 DOUBLERS PER DETAIL D

1. INSERT D4686-1 SPACER
2. SWAGE TO $\varnothing 0.650 +0.010/-0.000$ X 1.0
3. TRIM/GRIND FLUSH PER QSI 002



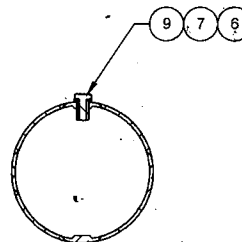
SECTION G-G
SCALE 4X
2 PL

INSTALL D2973 SPACER AS FOLLOWS (2 PL)
1. CHAMFER HOLE 0.030X45 DEG
2. INSERT D2973 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS $\varnothing 0.625$ DRILL TO REMOVE SPILL OVER

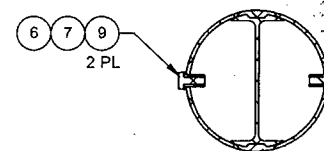


DETAIL D
16 PL (BOTH SIDES)
SCALE 4X

D4680-043 SKIDTUBE



SECTION E-E
SCALE 2.5X



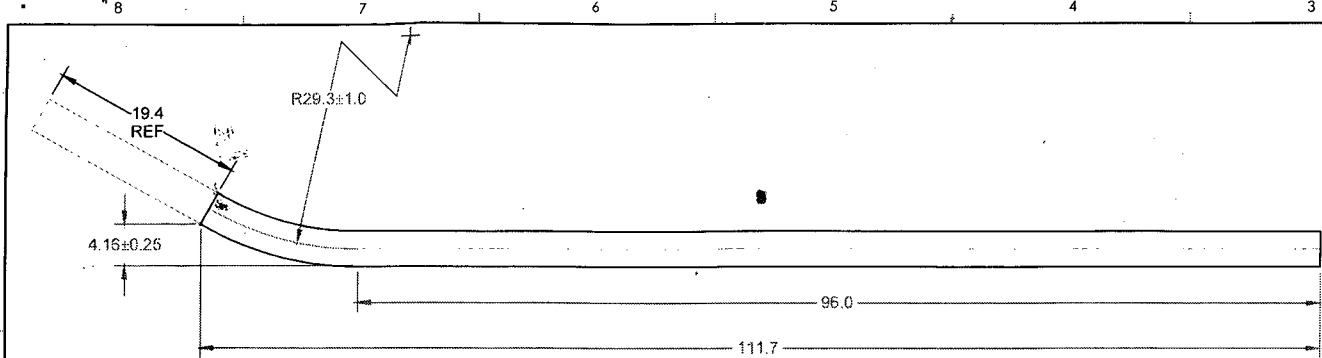
SECTION F-F
SCALE 2.5X

- NOTES:**
- 1) MATERIAL: N/A
 - 2) FINISH: APPLY CHEMICAL CONVERSION COATING PER DART QSI 005 4.1 PRIOR TO INSTALLING D4681-041 WEB. POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 17.90 lbs
 - 8) SEAL ALL MATING SURFACES USING PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
 - 9) INSERT D4681-041 WEB INTO D4680-1 SKIDTUBE IN LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX -241/-291 ADHESIVE PER DART QSI 015
 - 10) INSTALL D4686-1 SPACER AFTER INSTALLING D4753-1 DOUBLERS
 - 11) WELDING: PER QSI 004

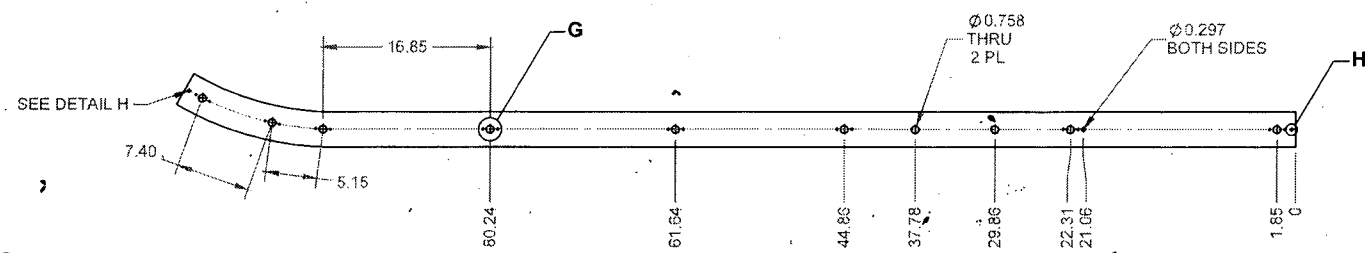
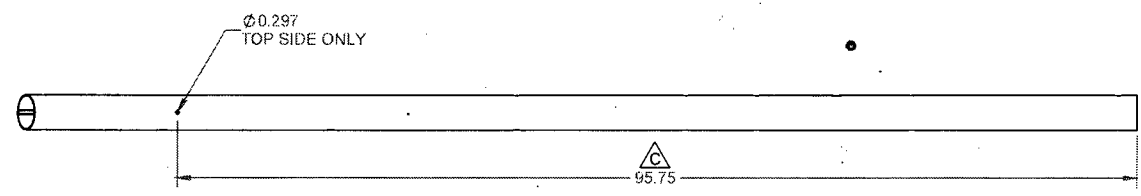
PRELIMINARY ISSUE

DESIGN	AP	DART AEROSPACE USA, INC.	
DRAWN	AP	KENT, WA	
CHECKED	AJS	DRAWING NO.	REV. C2
MFG. APPR.	DD	D4680	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		SKIDTUBE	NTS
DATE	14.02.26	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

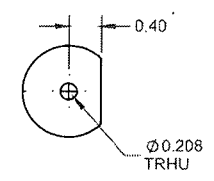
PRELIMINARY ISSUE



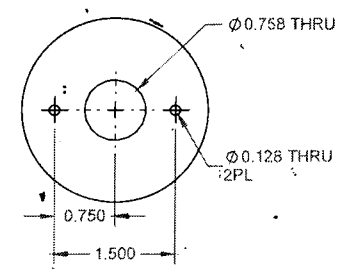
D4680-1 SKIDTUBE BENDING/TRIMMING DETAIL



D4680-1 SKIDTUBE DRILLING DETAIL



DETAIL H
SCALE 8X
2 PL



DETAIL G
SCALE 8X
8 PL

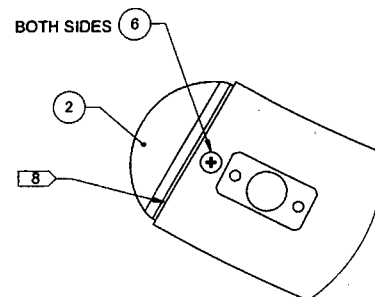
- NOTES:**
- 1) MATERIAL: MAKE FROM D2962-150 EXTRUSION
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 11.36 lbs

PRELIMINARY ISSUE

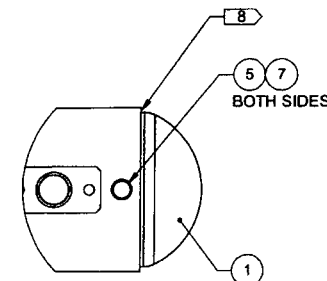
DESIGN	AP	DART AEROSPACE USA, INC.	
DRAWN	AP	KENT, WA	
CHECKED	AJS	DRAWING NO. D4680	REV. C2
MFG. APPR.	DD	SHEET 3 OF 3	
APPROVED		TITLE	SCALE
DE APPR.		SKIDTUBE	NTS
DATE	14.02.26	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

PRELIMINARY ISSUE

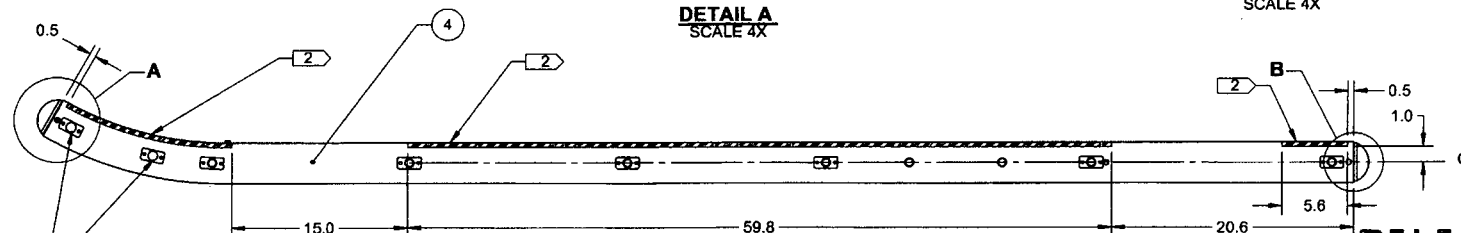
ITEM	QTY	P/N	DESCRIPTION
	X	D4680-041	SKIDTUBE
1	1	D2965	CAP
2	1	D2965-3	CAP
3	4	D3492-055	PLUG ASSY
4	1	D4680-043	SKIDTUBE SUB ASSY
5	2	AN3C5A	BOLT
6	2	AN526C1032R10	SCREW
7	2	NAS1149F0332P	WASHER (AN960-10L)



DETAIL A
SCALE 4X



DETAIL B
SCALE 4X



D4680-041 SKIDTUBE

INSTALL D3492-055 PLUG ASSY
AFTER SWAGING
(BOTH SIDES)

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 1.00 ABOVE CENTERLINE PER QSI 005 SECTION 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4680-041" AND B/N PER QSI 044 METHOD 6.4 ON INNER RADIUS OF SKIDTUBE BEFORE INSTALLING D2965 CAP
- 7) WEIGHT: 18.56 lbs
- 8) SEAL FAYING SURFACES WITH SIKAFLEX -241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B-2 SEALANT

C	NAS1149F0332P WAS AN960-10L, AN526C1032R10 WAS AN526C1032-10, FWD GROUNDING STRAP FASTENER MOVED AFT (C5-3), Ø0.750 WAS Ø0.738 (B4-3).	AP	14.07.29
B	FWD CAP WAS D2965, NOW D2965-3, VARIOUS DIMENSIONAL CHANGES. D3492-055 PLUG ASSY WAS D3492-051, SWAGING DIMENSION NOW 0.650 WAS 0.681 (D6-2), ADDED DETAIL H (C2-3), MATERIAL D2962-150 WAS D2962-131 (A7-3), GROUND HANDLING THRU HOLES NOW WELDED, ADDED SECTION G-G (D3-2)	AP	13.09.10
A	NEW ISSUE	AP	13.02.13
REV.	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	AP		
CHECKED	ML	DRAWING NO.	REV. C
MFG. APPR.	JLM	D4680	SHEET 1 OF 3
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	SKIDTUBE	NTS
DATE	14.07.29	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE RELEASED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

RELEASED
2014-11-20

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

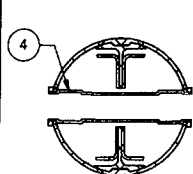
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

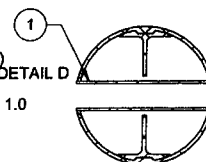
Landing Gear	General	Other
☐ Bending	☐ Bend	☐ Folio/Program
☐ Centre Not Concentric	☐ BOM/Route	☐ Grain
☐ Cracks	☐ Broken/Damage/Defect	☐ Hardware
☐ Crimp/Kink/Ripple/Wave	☐ Burrs	☐ Inspection Incomplete/Unqualified
☐ Cuffs	☐ Contamination	☐ Instructions Incomplete/Unclear
☐ Crushing	☐ Countersink	☐ Misaligned/off center
☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled
☐ Inspection Strip in Tube	☐ Drawing	☐ Misread
☐ Marks/Chatter	☐ Drill Holes	☐ Off-set
☐ Turning Sequence	☐ Finish	☐ Out of Calibration
☐ Wave/Twist in Tube	☐ Fit/Function	☐ Out of Sequence
		☐ Outside Dimensions
		☐ Over/Under tolerance
		☐ Part Incorrect
		☐ Part Lost/Missing
		☐ Part Moved
		☐ Positioned Wrong
		☐ Power Loss/Surge
		☐ Pressure/Forced
		☐ Set-up
		☐ Temperature/Cure
		☐ Weld
		☐ Wrong Stock Pulled
		☐ Other

ITEM	QTY	P/N	DESCRIPTION
	X	D4680-043	SKIDTUBE SUB ASSY
1	2	D2973	SPACER
2	1	D4680-1	SKIDTUBE
3	1	D4681-041	WEB ASSY
4	8	D4686-1	SPACER
5	16	D4753-1	DOUBLER
6	3	AELS-1032-130	INSERT
7	3	AN3C4A	BOLT
8	32	MS20601AD4W3	RIVET, BLIND, CSK
9	3	NAS1149F0332P	WASHER (AN960-10L)



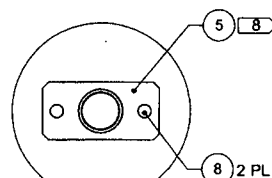
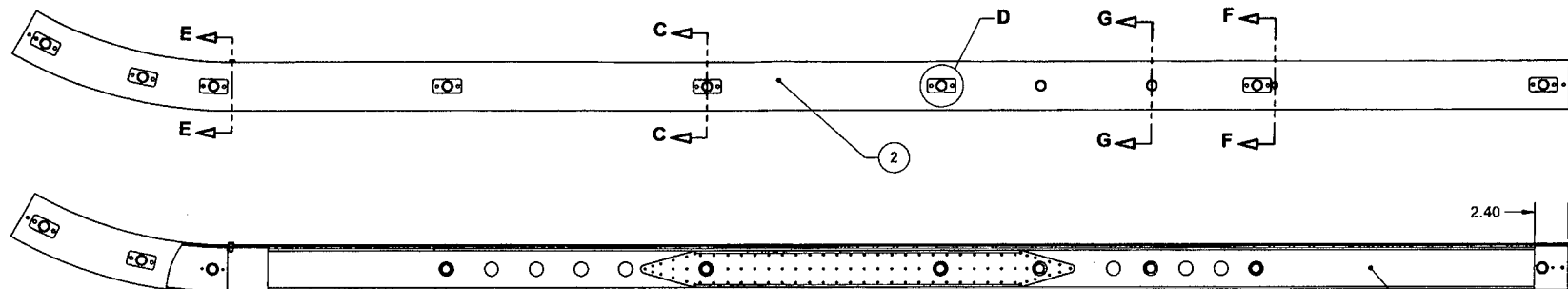
SECTION C-C
SCALE 4X
8 PL

INSTALL D4686-1 SPACER AS FOLLOWS (8 PL)
AFTER INSTALLING D4753-1 DOUBLERS PER DETAIL D
1. INSERT D4686-1 SPACER
2. SWAGE TO $\phi 0.650 \pm 0.010/-0.000 \times 1.0$
3. TRIM/GRIND FLUSH PER QSI 002



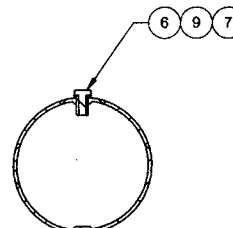
SECTION G-G
SCALE 4X
2 PL

INSTALL D2973 SPACER AS FOLLOWS (2 PL)
1. CHAMFER HOLE 0.030X45 DEG
2. INSERT D2973 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS $\phi 0.625$ DRILL TO REMOVE SPILL OVER

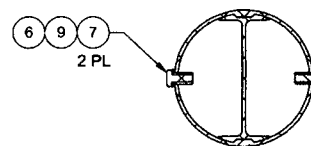


DETAIL D
16 PL (BOTH SIDES)
SCALE 4X

D4680-043 SKIDTUBE SUB ASSY



SECTION E-E
SCALE 2.5X



SECTION F-F
SCALE 2.5X

- NOTES:**
- 1) MATERIAL: N/A
 - 2) FINISH: APPLY CHEMICAL CONVERSION COATING PER DART QSI 005 4.1 PRIOR TO INSTALLING D4681-041 WEB. POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 17.91 lbs
 - 8) SEAL ALL MATING SURFACES USING PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT
 - 9) INSERT D4681-041 WEB INTO D4680-1 SKIDTUBE IN LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX -241/-291 ADHESIVE PER DART QSI 015
 - 10) INSTALL D4686-1 SPACER AFTER INSTALLING D4753-1 DOUBLERS
 - 11) WELDING: PER QSI 004

APPROVED

DESIGN	AP	DART AEROSPACE USA, INC.	
DRAWN	AP	KENT, WA	
CHECKED	ML	DRAWING NO.	REV. C
MFG. APPR.	JLM	D4680	SHEET 2 OF 3
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	SKIDTUBE	NTS
DATE	14.07.29	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

RELEASED
2014-11-20

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

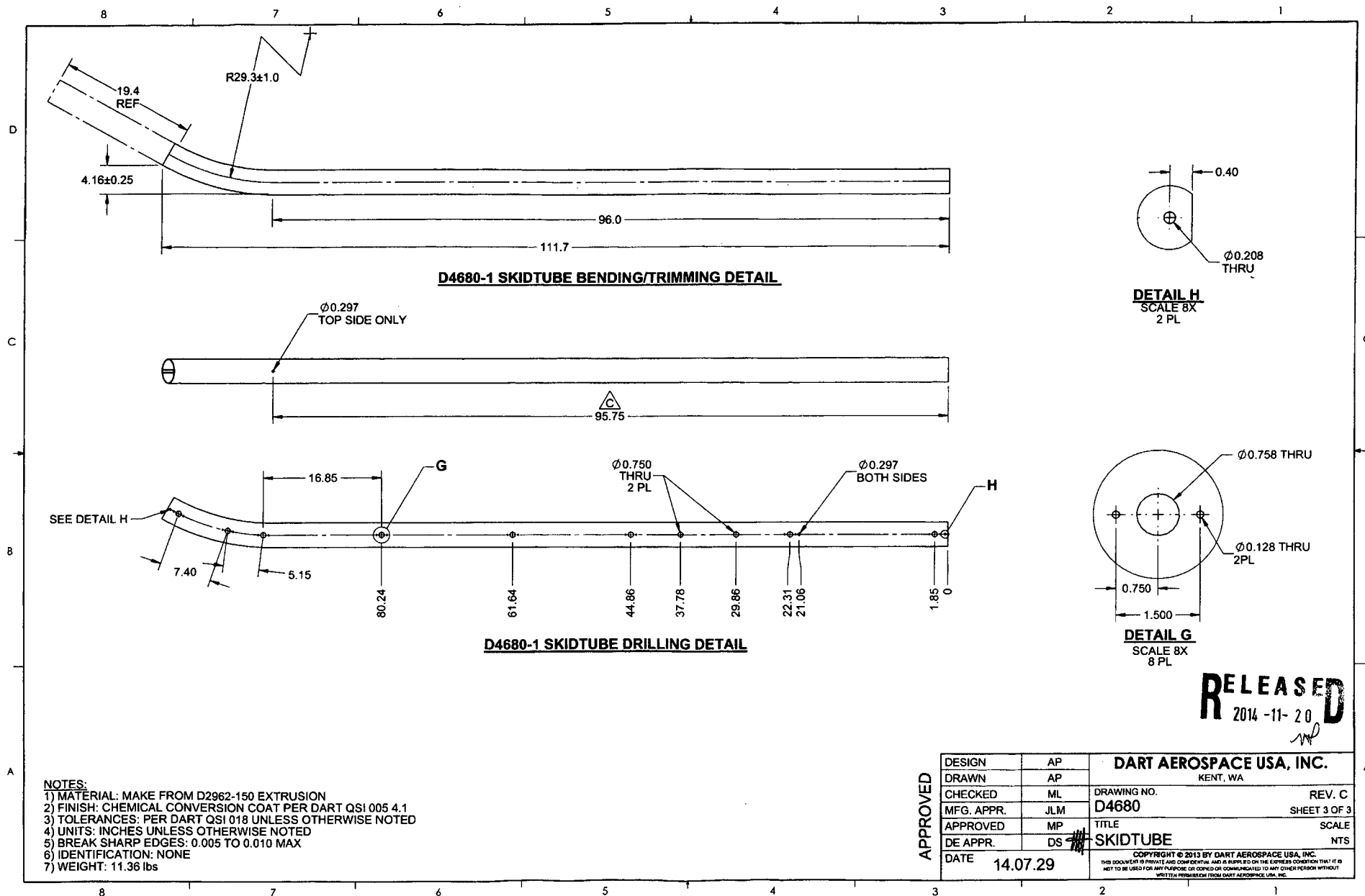
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--



DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--



FIRST ARTICLE INSPECTION CHECKLIST

[illegible]

Measured by: <i>Smf</i>	Audited by: <i>S</i>	Preliminary Approval:
Date: <i>14/12/18</i>	Date: <i>14/12/18</i>	Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	